

DEPARTMENT OF PUBLIC SERVICE REGULATION
BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MONTANA

* * * * *

IN THE MATTER of the Filing)	UTILITY DIVISION
of Mountain Water Company in Response)	
to Order No. 6644c, ¶ 44, Order ¶ 6,)	DOCKET NO. D2005.4.49
and Order No. 6644d, Docket No. D2005.4.49)	

INITIAL TESTIMONY OF LARRY NORDELL

Montana Consumer Counsel
616 Helena Avenue
P.O. Box 201703
Helena, MT 59620-1703

April 17, 2007

1 **Q. PLEASE STATE YOUR NAME AND POSITION.**

2 A. My name is Larry Nordell. I am an economist on the staff of the Montana Consumer
3 Counsel.
4

5 **Q. PLEASE OUTLINE YOUR EDUCATIONAL AND PROFESSIONAL**
6 **BACKGROUND.**

7 A. I received an A.B. Degree in Economics from the University of California at Berkeley in
8 1963, and a Ph.D. degree, also in Economics and also from the University of California at
9 Berkeley, in 1967. During the 1967-68 academic year I had a post-doctoral research
10 position at the London School of Economics. From 1968 through 1972 I held the
11 position of Assistant Professor of Economics at the State University of New York, at
12 Stony Brook, and from 1972 through 1976 I held the position of Associate Professor of
13 Economics at the Whittemore School of Business and Economics at the University of
14 New Hampshire. In 1976 I moved to Montana and went to work as an economist for the
15 Energy Planning Division of the Montana Department of Natural Resources and
16 Conservation. I held that position until the 1995 reorganization when the Montana
17 Department of Environmental Quality was formed; after that I held the same position in
18 the Planning, Prevention and Assistance Division of DEQ. In 2003 I joined the staff of
19 the Montana Consumer Counsel.
20

21 **Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THIS COMMISSION?**

22 A. Yes, I have testified before this Commission on numerous occasions.
23

24 **Q. WHAT IS THE NATURE OF YOUR TESTIMONY?**

25 A. Mountain Water Company (MWC) has, in response to a Commission order, filed a
26 proposed method of reallocating the costs of serving the fire protection needs of the city
27 of Missoula to all customer loads. I have no objection to the proposed cost allocation that
28 MWC has presented in Mr. Kappes's testimony. It appears to be a reasonably equitable
29 way to spread the fire costs, given the Commission order. Nevertheless, some issues are
30 raised by the testimony that I would like to discuss and on which I will make certain
31 recommendations for Commission action.

1 **Q. PLEASE EXPLAIN YOUR REACTION TO MWC'S PROPOSAL FOR**
2 **SPREADING FIRE COSTS.**

3 A. In principle, since fire protection provides benefits to all customers whether or not they
4 are metered, and since all customers have been paying the fire protection costs through
5 their property taxes whether or not they are metered, it might make sense to reallocate the
6 fire costs through a flat surcharge on each bill with the size of the surcharge reflecting the
7 average benefit to residential vs. business vs. Public Agency customers. However,
8 MWC's proposal has merit because it reduces the likely differential between what
9 unmetered customers pay and the costs they likely impose on the water system, and
10 because it provides an additional incentive for unmetered customers to accept the need
11 for their accounts to be metered. On balance, I think MWC's proposal is acceptable.
12

13 **Q. WHAT IS THE FIRST ISSUE YOU SEE RAISED IN THE TESTIMONY?**

14 A. As the Commission is well aware from previous rounds in this docket, a significant
15 portion of MWC's customers are not metered. According to data presented by Mr.
16 Kappes and by the HDR Engineering Company study presented as Exhibit JK-1,
17 approximately 6400 residential customers (roughly 38 percent of all residential
18 customers) are unmetered. 158 business customers, about 5 percent of all business
19 customers, are unmetered. Over half of the irrigation accounts, 430 out of 846, are
20 unmetered. In addition, there are 38 unmetered Public Authority accounts. The
21 Commission tried to address this issue in 1978 and it tried again in its recent order. I
22 believe it is appropriate to try to address it here as well.
23

24 **Q. WHY IS THE HIGH INCIDENCE OF UNMETERED ACCOUNTS A**
25 **PROBLEM?**

26 A. There are two reasons. First, MWC has no good idea of how much water is used by the
27 unmetered customers. It has made an effort to estimate that use, which I will address
28 below. I believe that estimate has major shortcomings, and as a consequence, it is
29 difficult to properly assign costs. Second, unmetered accounts are charged a flat rate
30 regardless of the amount of their water use, effectively giving them a zero price on
31 incremental water use. They have no incentive at all to use water efficiently, to seal

1 leaks, or in general to avoid waste. This is particularly a problem with irrigation
2 accounts, for which water use is a key input to the intended purpose of the activity, in
3 which unpriced water will tend to be used until it is worthless at the margin.
4

5 **Q. WHY ISN'T VOLUNTARY CONVERSION TO METERING SUFFICIENT?**

6 A. Voluntary conversion would take place when a customer could save sufficient money by
7 converting to cover the cost of meter installation plus some amount necessary to
8 overcome consumer inertia. Small customers would tend to save money by having
9 meters, but the savings might be insufficient to cover the cost of buying and installing the
10 meters. Large users, who currently benefit from a flat rate and who would have to pay
11 more if their use were measured and priced, have no incentive to convert. Yet they
12 should be the highest priority customers for conversion.
13

14 **Q. DO YOU HAVE A RECOMMENDATION ON THE UNMETERED ACCOUNTS?**

15 A. Yes. I recommend that the Commission direct MWC to study the costs and benefits of
16 installing meters on all unmetered irrigation and sprinkler accounts, including all private
17 irrigation as well as all unmetered Public Authority accounts. The number of meters
18 involved is relatively small (approximately 468 meters) and the potential benefits are
19 very large. The study should be completed within two years, and it should evaluate the
20 implementation of meters on all the above mentioned accounts within the following two
21 years, under the assumption that the Commission ends the use of flat rate service for
22 these customers. The study should evaluate alternative means of financing the meter
23 installations and alternative means of collecting the associated revenue requirements.
24 Finally, the study should evaluate alternative means of ensuring customer cooperation,
25 including such measures as Commission-ordered termination of flat-rate service for these
26 customers. I recommend that when the Commission receives the results of this study it
27 should then decide whether to order the installation of meters on these accounts.
28

29 **Q. WHY IS THIS RECOMMENDATION DIFFERENT THAN WHAT THE**
30 **COMMISSION ORDERED IN ORDER 6644C?**

31 A. Order 6644c directed MWC to produce a plan for the aggressive conversion of all

1 metered accounts, including the roughly 6400 residential unmetered accounts. My
2 recommendation at this point is for a study only, of the costs and benefits of conversion
3 of unmetered irrigation and Public Agency accounts. There are far fewer installations
4 required and I would expect fewer of the problems Mr. Kappes thinks he will have with
5 access to customer property.
6

7 **Q. PLEASE DISCUSS THE IMPACT OF SIGNIFICANT UNMETERED**
8 **CUSTOMERS ON MWC'S KNOWLEDGE OF WATER USE AMONG ITS**
9 **CUSTOMERS.**

10 A. MWC concedes that it does not know how much water is used by its unmetered
11 customers, but asserts that it has a plausible method for estimating that use. It assumed
12 that unmetered customers use more water than metered customers. MWC applies an
13 adjustment factor of 1.4 to per-metered-customer use, for residential and business
14 customers, to get an estimate of use per unmetered customer in those classes. MWC
15 applies an adjustment factor of 2 to metered irrigation customer use, to get estimates for
16 unmetered irrigation customers and unmetered Public Authority customers. (MWC
17 assumes that unmetered Public Authority loads are all irrigation or sprinkler loads).
18

19 **Q. IS THAT A PLAUSIBLE APPROACH?**

20 A. It might be or it might not; it is not possible to tell.
21

22 **Q. DOES MWC ATTEMPT TO VALIDATE THE ADJUSTMENT FACTORS?**

23 A. Yes. MWC adds total metered use, total estimated unmetered use, and "unaccounted for
24 water", and compares the sum to actual total production. MWC concludes that the
25 estimated total is close enough to the actual total to deem the adjustment factors
26 appropriate.
27

28 **Q. DO YOU AGREE?**

29 A. No, I do not. The problem here is that "unaccounted for" water is approximately 40
30 percent of total production (ref Exhibit JK-1, Table 16), and that amount also cannot be
31 verified except through comparing total use and known (metered use). In fact, only the

1 sum of unmetered use and unaccounted for water can be estimated, not the components
2 separately. MWC's apparent validation of the adjustment factors is entirely dependent
3 upon its estimate of unaccounted for water. One possibility is that some significant
4 portion of what is currently labeled unaccounted for water is actually part of the
5 understated usage of unmetered customers, particularly unmetered irrigation customers.
6 This may show up if meters are installed, although I would expect usage to decline for
7 these customers once they are metered.
8

9 **Q. ARE THERE OTHER ISSUES RAISED BY MWC'S FILING?**

10 A. Yes. The exclusive use of embedded costs to set rates appears inappropriate.
11

12 **Q. PLEASE EXPLAIN.**

13 A. MWC's approach to setting rates provides no information on the cost to the water system
14 at the margin, and in a growing system all use is at the margin. MWC indicates the
15 supply system may need to be expanded in as little as 12 years. Embedded cost rates also
16 provide no information on the impact of water use during the irrigation season vs. outside
17 the irrigation season. Average daily use during the summer is twice the annual average
18 use, implying that irrigation season use may be as much as 4 times as high as off-season
19 use. Putting a marginal cost price signal on irrigation season use could reduce usage
20 sufficiently to offset the eventual need for significant system expansions of water supply
21 to serve city growth. An irrigation season increasing block rate for residential and
22 business accounts could also provide a marginal costs signal to those users on their lawn
23 sprinkling use.
24

25 **Q. WHAT IS YOUR RECOMMENDATION?**

26 A. I recommend the Commission direct MWC to design and carry out a marginal cost study
27 for water supply that would provide information needed to send efficient cost signals that
28 convey the economic value of water in rates.
29

30 **Q. WHAT DO YOU RECOMMEND THE COMMISSION DO WITH THE RESULTS**
31 **OF THIS STUDY?**

1
2 A. The Commission should evaluate the results of the study to determine the extent to which
3 marginal supply costs should be reflected in customer rates. In making this
4 determination, the benefits of conveying efficient price signals should be weighed along
5 with equity considerations, especially the burden of any significant cost shifts among
6 customer classes.

7
8 **Q. DO YOU ALSO RECOMMEND A STUDY OF MARGINAL COST FOR ITEMS**
9 **OTHER THAN WATER SUPPLY?**

10 A. No, I do not. MWC appears to have a reasonable way of dealing with the need for line
11 expansions. Marginal capacity costs, other than those related to water supply costs, are
12 subject to excessive manipulation at the expense of customers. For example, if the
13 marginal cost of extending mains to serve new customers were reflected in rates to
14 existing customers, the response of existing customers would not free up space that
15 would be of any use in serving new loads.

16
17 **Q. HOW SHOULD MWC PAY FOR THE STUDIES YOU ARE PROPOSING?**

18 A. The Commission should direct MWC to track the incremental costs of these studies for
19 recovery in future rate proceedings.

20
21 **Q. DOES THIS COMPLETE YOUR TESTIMONY?**

22 A. Yes, it does.

CERTIFICATE OF SERVICE

I certify that a copy of the forgoing Initial Testimony of Larry Nordell has been served upon the following persons by first class mail this 17th day of April 2007:

Arvid Hiller
Mountain Water Company
1345 W Broadway
P.O. Box 4826
Missoula, MT 59806-4826

Ed Jackson
Park Water Company
9750 Washburn Road
P.O. Box 2002
Downey, CA 90241

John Alke
Attorney At Law
40 W. Lawrence, Suite A
P.O. Box 1166
Helena, MT 59624-1166

Leigh K. Jordan
Park Water Company
9750 Washburn Road
P.O. Box 2002
Downey, CA 90241

City of Missoula
435 Ryman
Missoula, MT 59802

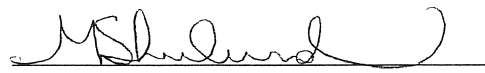
Travis Ross
301 W Alder
Missoula, MT 59802

Jim Nugent
City of Missoula
435 Ryman
Missoula, MT 59802-4297

Mark S. Taishoff
3337 Darrell Lane
Missoula, MT 59803

Michael Krebs
905 Evans Avenue
Missoula, MT 59801-5852

John W. Wilson
J.W. Wilson & Associates, Inc.
1601 North Kent, Suite 1104
Arlington, Virginia 22209


Mandi Shulund, Secretary